

### REMARKS

In response to the Final Office Action mailed June 6, 2008, Applicant respectfully requests reconsideration and entry of this amendment. Claims 1-16 were previously pending in this application. In this paper, claims 1, 3-7 and 9 have been amended. Claim 2 has been canceled without prejudice or disclaimer. As a result, claims 1 and 3-16 are pending for examination with claims 1 and 9 being independent. No new matter has been added.

#### Allowable Subject Matter

As a preliminary matter, Applicant notes with appreciation the indication of allowable subject matter in claims 4, 6, 10, 13, and 15.

#### Rejections Under 35 U.S.C. §102

The Office Action rejected claims 1-3, 5-9, 11, 12, 14 and 16 (including independent claims 1 and 9) under 35 U.S.C. 102(b) as allegedly being anticipated by U.S. Patent No. 6,148,437 ("Shah"). Applicant respectfully disagrees.

#### A. Independent Claim 1

Claim 1, as amended, recites:

A method for transmitting digital messages through output terminals of a monitoring circuit integrated to a microprocessor on execution of an instruction sequence by the microprocessor, each digital message being representative of characteristic data stored by the monitoring circuit on detection of a specific event from a plurality of specific events in the execution of the instruction sequence, the method comprising:

comparing characteristic stored data of a specific event having an identifier with characteristic stored data of a last previously detected specific event having the same identifier to determine whether the specific event and the last previously detected specific event are identical;

when it is determined that the specific event and the last previously detected specific event are identical, incrementing a repetition counter associated with said specific event; and

when it is determined that the specific event and the last previously detected specific event are different:

transmitting a digital message representative of the data characteristic of the specific event through at least one output terminal of the monitoring circuit; and

when content of the repetition counter associated with said specific event is different from zero, transmitting a digital message indicating a number of repetitions of the specific event, the number of repetitions is determined by a value of the repetition counter.

On page 3, the Office Action states that in column 6, lines 62-65, Shah “discloses that the backpatch manager examines a trace after it has been translated to determine if any other previously translated trace has a jump instruction that jumps to the newly translated trace (comparing characteristic stored data of a specific event with characteristic stored data of a last previously detected specific event corresponding to a same identifier).” Claim 1 has been amended to recite comparing characteristic stored data of a *specific event having an identifier* with characteristic stored data of a *last previously detected specific event having the same identifier to determine whether the specific event and the last previously detected specific event are identical*. It is not clear what “identifier” in a trace of Shah the Office Action refers to. Thus, if one to assume that, according to the Office Action, a *jump instruction that jumps to the newly translated trace* is the identifier, then it appears that the newly translated trace would not have “the same identifier” recited in claim 1 (emphasis added). Moreover, in this passage, Shah does not discuss comparing characteristic data to determine whether the specific event and the last previously detected specific event are *identical*, as recited in claim 1.

Further, the Office Action alleges that, in column 12, lines 43-48, Shah discloses that “if there is no match between the unique identifier of the current original instruction and any entry in a column, driver in a known manner creates a new original instruction record by creating a new row of entries in instruction data structure (and if the compared data are different, transmitting a digital message representative of the data characteristic of the specific event).” Claim 1 has been amended to recite when it is determined that the specific event and the last previously detected specific event are different: transmitting a digital message representative of the data characteristic of the specific event *through at least one output terminal of the monitoring circuit* (emphasis added). Creating a new row of entries in instruction data structure 242 is different from transmitting a digital message

... through at least one output terminal of the monitoring circuit as recited in claim 1. Thus, Shah does not teach or suggest “when it is determined that the specific event and the last previously detected specific event are different: transmitting a digital message representative of the data characteristic of the specific event through at least one output terminal of the monitoring circuit,” as recited in claim 1

Further, on page 3, the Office Action states that, in column 12, lines 57-62, Shah discloses “after assigning a unique identifier it determines whether the instruction is a target instruction of a start-trace eligible jump instruction so that a trace is started if such target instruction's start-trace counter is greater than the start--trace threshold of the start-trace eligible jump instruction (and, further, if content of the repetition counter associated with said specific event is different from zero, transmitting a digital message indicating a repetition of the specific event).” Shah discusses that a target instruction is designated as *the start of a trace* if the number of times that control has passed to it through any type of start-trace-eligible jump instruction reaches a start-trace threshold (col. 5, lines 22-25). Typically, such number is stored in a start-trace counter uniquely associated with that target instruction (Shah, col. 5, lines 25-27). Thus, Shah describes starting a trace when a start-trace counter of a start-trace-eligible jump instruction reaches a start-trace threshold. However, claim 1 recites “when content of the repetition counter associated with said specific event is different from zero, transmitting *a digital message indicating a number of repetitions of the specific event, the number of repetitions is determined by a value of the repetition counter*” (emphasis added). Starting a trace is different from transmitting a digital message indicating a number of repetitions of the specific event. Nowhere in the reference does Shah discuss that a trace started when a start-trace counter of a start-trace-eligible jump instruction reaches a start-trace threshold indicates a number of repetitions of the specific event, the number of repetitions is determined by a value of the repetition counter. Thus, Shah does not teach or suggest “when content of the repetition counter associated with said specific event is different from zero, transmitting a digital message indicating a number of repetitions of the specific event, the number of repetitions is determined by a value of the repetition counter, as recited in claim 1.

In view of the foregoing, claim 1 patentably distinguishes over Shah.

Claims 3-8 depend from claim 1 and are allowable for at least the same reasons.

Accordingly, withdrawal of the rejection of claims 1 and 3-8 is respectfully requested.

B. Independent Claim 9

Claim 9, as amended, recites:

A device for transmitting digital messages between a monitoring circuit integrated with a microprocessor and an analysis tool, on execution of an instruction sequence by the microprocessor, comprising:

means for detecting a specific event from a plurality of specific events in the execution of the instruction sequence, the specific event having an identifier;

means for storing data characteristic of the detected specific event;

means for transmitting a digital message representative of the stored characteristic data;

means for comparing the characteristic data of the detected specific event with characteristic stores data of a last previously detected specific event having the same identifier to determine whether the detected specific event and the last previously detected specific event are identical; and

means for incrementing a repetition counter associated with said detected specific event and indicating a number of repetitions of the detected specific event when the comparison means provides a signal indicating that the detected specific event and the last previously detected specific event are identical;

wherein the transmission means is configured to:

transmitting, through at least one output terminal of the monitoring circuit, a message representative of the data characteristic of the detected specific event when the comparison means provides a signal indicating that the detected specific event and the last previously detected specific event are different; and

transmitting a digital message indicating a repetition of the detected specific event when the incrementation means provides a signal indicating that content of the repetition counter associated with said detected specific event is different from zero.

On pages 5-6, the Office Action states that Shah discloses limitations of claim 9 and cites to the same portions as in the rejection of claim 1. However, Shah does not teach or suggest all the limitations of claim 9. In particular, Shah does not teach or suggest “transmitting, through at least one output terminal of the monitoring circuit, a message representative of the data characteristic of the detected specific event when the comparison means provides a signal indicating that the detected specific event and the last previously detected specific event are different,” as recited in claim 9. As discussed above, Shah describes creating a new original *instruction record* by creating a *new row of entries* in instruction data structure 242 if there is no match between the unique

identifier of the current original instruction and any entry in a column 902 (col. 12, lines 43-47) (emphasis added). This is different from recited in claim 9 transmitting, through at least one output terminal of the monitoring circuit, a message representative of the data characteristic of the detected specific event.

Further, Shah does not teach or suggest “transmitting a digital message indicating a repetition of the detected specific event when the incrementation means provides a signal indicating that content of the repetition counter associated with said detected specific event is different from zero,” as recited in claim 9.

In view of the foregoing, claim 9 patentably distinguishes over Shah.

Claims 10-16 depend from claim 9 and is allowable for at least the same reasons.

Accordingly, withdrawal of the rejection of claims 9-16 is respectfully requested.

**CONCLUSION**

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

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Respectfully submitted,

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